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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/535,572	05/19/2005	Kinzo Kishida	P1128US	7517
1218	7590	05/16/2006	EXAMINER	
CASELLA & HESPOS 274 MADISON AVENUE NEW YORK, NY 10016			LIVEDALEN, BRIAN J	
			ART UNIT	PAPER NUMBER
			2878	
DATE MAILED: 05/16/2006				

Please find below and/or attached an Office communication concerning this application or proceeding.

5/1

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/535,572	KISHIDA ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Brian J. Livedalen	2878	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5, 7, 8 and 10-16 is/are rejected.
- 7) ☒ Claim(s) 4, 6, 9, 17 and 18 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 May 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>5/19/2005</u>   | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Specification***

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 3 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 3, recites, "an adhering member ... for adhering the attachment member to the structure". However, claim 2 recites "an attaching device provided between the attachment member and the structure for attaching the attachment member to the structure". Claim 3 contradicts claim 2 by replacing "an attachment device" with "an adhering member". Correction is required.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 3, and 5 are rejected under 35 U.S.C. 102(b) as being anticipated by Sahlin et al. (20030063888).

In regard to claim 1, Sahlin discloses (fig. 6) an optical fiber measuring module to be laid on a structure for measuring at least one physical quantity from the distortion and temperature of the structure having: an optical fiber cable (130) including an optical fiber core, a cladding and a covering layer (page 1, paragraph 1). Sahlin does not explicitly state a covering layer and a cladding. However, these elements are inherent to a fiber cable because the light reflects based on the relationship between the core, the cladding, and the covering layer. Sahlin further discloses a base member (118) for holding the optical fiber cable, and an attachment member (112) for attaching the base member to the structure (page 2, paragraph 0027).

In regard to claim 2, Sahlin discloses (fig. 6) an attaching device (page 3, paragraph 0031) provided between the attachment member and the structure for attaching the attachment member to the structure, and a locking device (104, 106) provided between the base member and the attachment member for locking the base member in the attachment member (page 2, paragraph 0028).

In regard to claim 3, Sahlin discloses (fig. 6) that the attachment member includes an adhering layer (page 3, paragraph 0031) provided on the attachment member and made of an adhesive or welding agent for adhering the attachment member to the structure.

In regard to claim 5, Sahlin discloses that the locking device locks the base member in the attachment member by the engagement of engaging portions (104, 106)

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provided at the base member with locking portions (128) provided at the attachment member (page 3, paragraph 0029).

Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Narendran et al. (5594819).

In regard to claim 1, Narendan discloses (fig. 2c) an optical fiber measuring module to be laid on a structure for measuring at least one physical quantity from the distortion and temperature of the structure having: an optical fiber cable (40) including an optical fiber core, a cladding and a covering layer (fig. 2a, 42) (column 5, lines 17-26). Naredan does not explicitly state a core and a cladding. However, these elements are inherent to a fiber cable because the light reflects based on the relationship between the core, the cladding, and the covering layer. Naredan further discloses a base member (44) for holding the optical fiber cable, and an attachment member (48) for attaching the base member to the structure.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 7, 8, 10, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Narendran et al. (5594819) as applied to claim 1, and in view of Pope, Jr. et al. (6559437).

In regard to claims 7 and 10, Narendran discloses a fiber-measuring module as set forth above. Narendran fails to disclose using multiple fibers in the tubular base member. However, Pope, Jr. discloses (fig. 1) a tubular base member with three fibers (105) held along the longitudinal direction of the inner wall (column 4, lines 33-47). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have three fibers in order to detect a greater area and detect it more accurately.

In regard to claim 8, Narendran discloses a fiber-measuring module as set forth above. Narendran fails to disclose using multiple fibers in a strip-shaped base member. However, Pope, Jr. discloses (fig. 6) a strip-shaped base member (611) with two fibers along the longitudinal direction (column 6, lines 5-20). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use two fibers in a strip-shaped base member in order to more accurately detect distortion in a single plane of the structure.

In regard to claim 11, Narendran in view of Pope Jr. discloses a fiber-measuring module as set forth above with multiple fibers. Narendran fails to disclose using multiple fibers spirally placed in the tubular base member. However, Pope, Jr. discloses (fig. 3) a tubular base member with fibers spirally held on the inner wall (column 5, lines 4-17). It would have been obvious to one of ordinary skill in the art at the time the

invention was made to place the fibers in a spiral pattern to more accurately detect distortion of such a cylindrical structure.

Claims 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Narendran et al. (5594819) as applied to claim 1, and in view of Tanabe (4795231).

In regard to claims 12 and 13, Narendran discloses a fiber-measuring module as set forth above. Narendran fails to disclose forming the base member with slits. However, Tanabe discloses (fig. 5) forming a base member (43) with slits (45) for enhancing the flexibility of the base member and to reduce distortion (column 3, lines 13-26). It would have been obvious to one of ordinary skill in the art at the time the invention was made to make slits in the base member to provide greater flexibility.

Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Narendran et al. (5594819) as applied to claim 1, and in view of Hazan et al. (4990769) and in further view of Pope, Jr. et al. (6559437).

In regard to claim 14, Narendran discloses a fiber-measuring module as set forth above. Narendran fails to disclose a base member with notches on opposite sides. However, Hazan discloses (fig. 4a) a base member (22) with notches taken out (23) (column 5, lines 1-12). It would have been obvious to one of ordinary skill in the art at the time of the invention to place notches in the base member in order to increase flexibility. Narendran further fails to disclose placing the fiber in a wave pattern.

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However, Pope, Jr. discloses (fig. 6) placing a fiber in a wave pattern on a base member (column 6, lines 5-20). It would have been obvious to one of ordinary skill in the art at the time of the invention to place the fiber in a wave pattern in order to detect a greater lateral area with only one fiber.

Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Narendran et al. (5594819) as applied to claim 1, and in view of Sugai et al. (2001/0019103).

In regard to claim 15, Narendran discloses a fiber-measuring module as set forth above. Narendran fails to disclose multiple base members connected with couplers. However, Sugai discloses (fig. 7) a fiber sensor with multiple base members (10) that are coupled together (page 5, paragraph 76. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use multiple base members in order to measure a greater area.

Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Narendran et al. (5594819) as applied to claim 1, and in view of Atoji et al. (2002/0051598).

In regard to claim 16, Narendran discloses a fiber-measuring module as set forth above. Narendran fails to disclose using a polarizing ring. However, Atoji discloses an optical fiber, which uses a polarizing ring formed by looping the optical fiber cable, wherein a polarized state of a signal light propagating in the optical fiber cable is



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corrected (page 7, paragraph 0080). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use a polarizing ring in order to reduce the plain of polarization allowing for a more precise measurement.

### ***Allowable Subject Matter***

Claims 4, 6, 9, 17, and 18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: Claims 4, 6, 9, 17, and 18 are neither anticipated nor made obvious by the prior art of record.

In regard to claim 4, the prior art fails to disclose the limitations as set forth in claim 2 wherein the attaching device attaches the attachment member to the structure by pushing an engaging projection engageable with a bottomed locking groove formed in the structure and narrower at an opening than at a bottom portion into the locking groove via a resilient sheet made of a resilient member.

In regard to claim 6, the prior art fails to disclose the limitations as set forth in claim 2 wherein the locking device sets an initial distortion of the optical fiber cable for the correction of a zero of a measurement value by differing intervals of the locking portions provided at the attachment member from those of the engaging portions

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provided at the base member to give a distortion resulting from elongation or contraction to the base member locked in the attachment member.

In regard to claim 9, the prior art fails to disclose the limitations as set forth in claim 1 in combination with the base member being a strip-shaped flat portion with a wall portion standing upright in the center of the flat portion with two fiber cables held along the longitudinal direction of the flat portion at a specified distance from each other, and another fiber cable is held along the longitudinal direction of the wall portion.

In regard to claims 17 and 18, the prior art fails to disclose the limitations as set forth in claim 16 with a loading mechanism capable of giving distortion and the distortion corrects the distortion in the fiber.

### ***Conclusion***

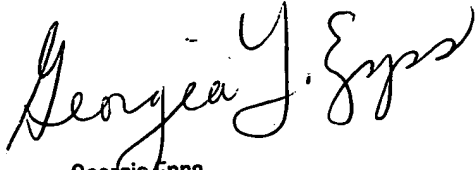
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian J. Livedalen whose telephone number is (571) 272-2715. The examiner can normally be reached on 8:30 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Georgia Epps can be reached on (571) 272-2328. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

bjl

  
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